

Characteristics of unclassified streams sampled by the Resource Assessment and Monitoring Program



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Outline

- RAM Program
- Dispersion of stream sample locations
- Characteristics of unclassified streams
- Conclusions

RAM Program

- 1994 - 2008
- Warm-water wadeable streams
- Statewide random sample
- 12 EDUs
- Reference sites
- Targeted sites

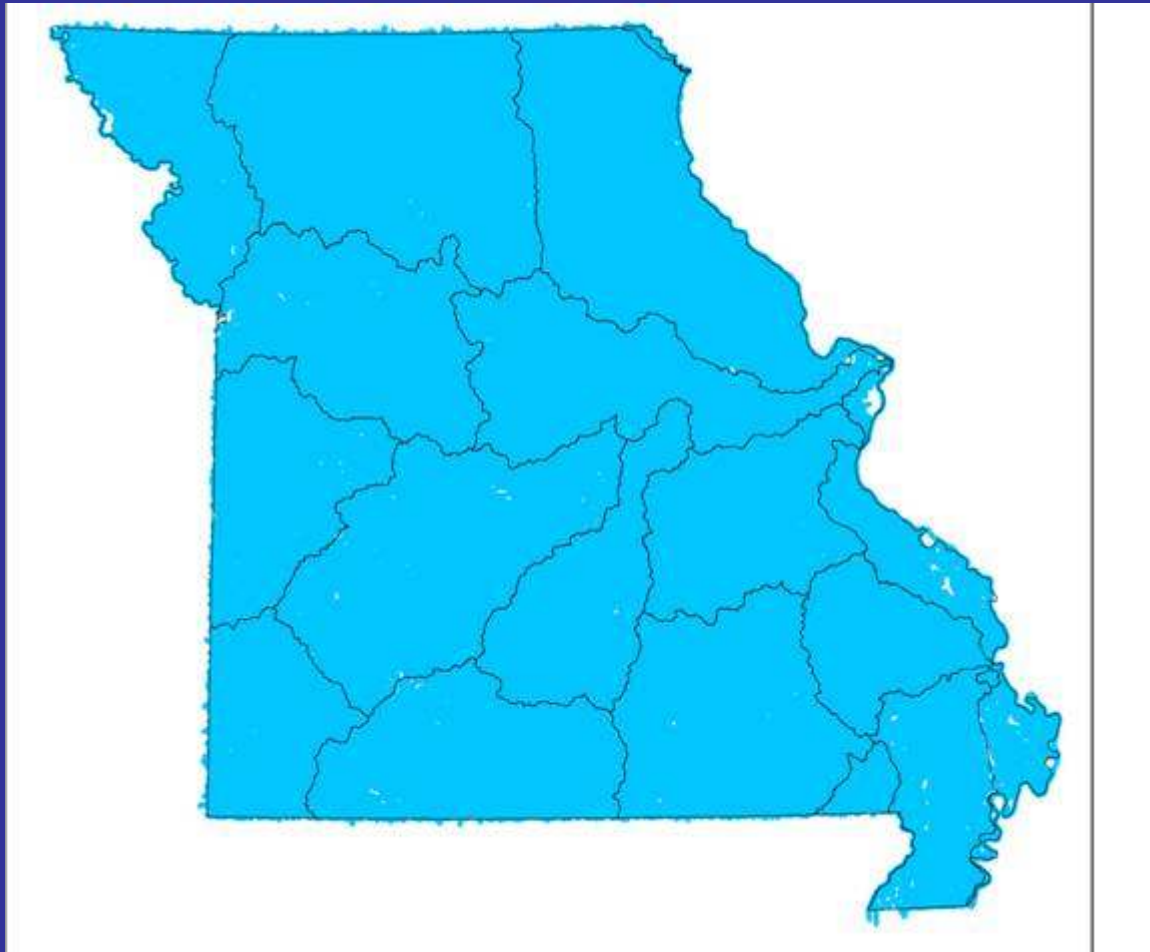


RAM Program

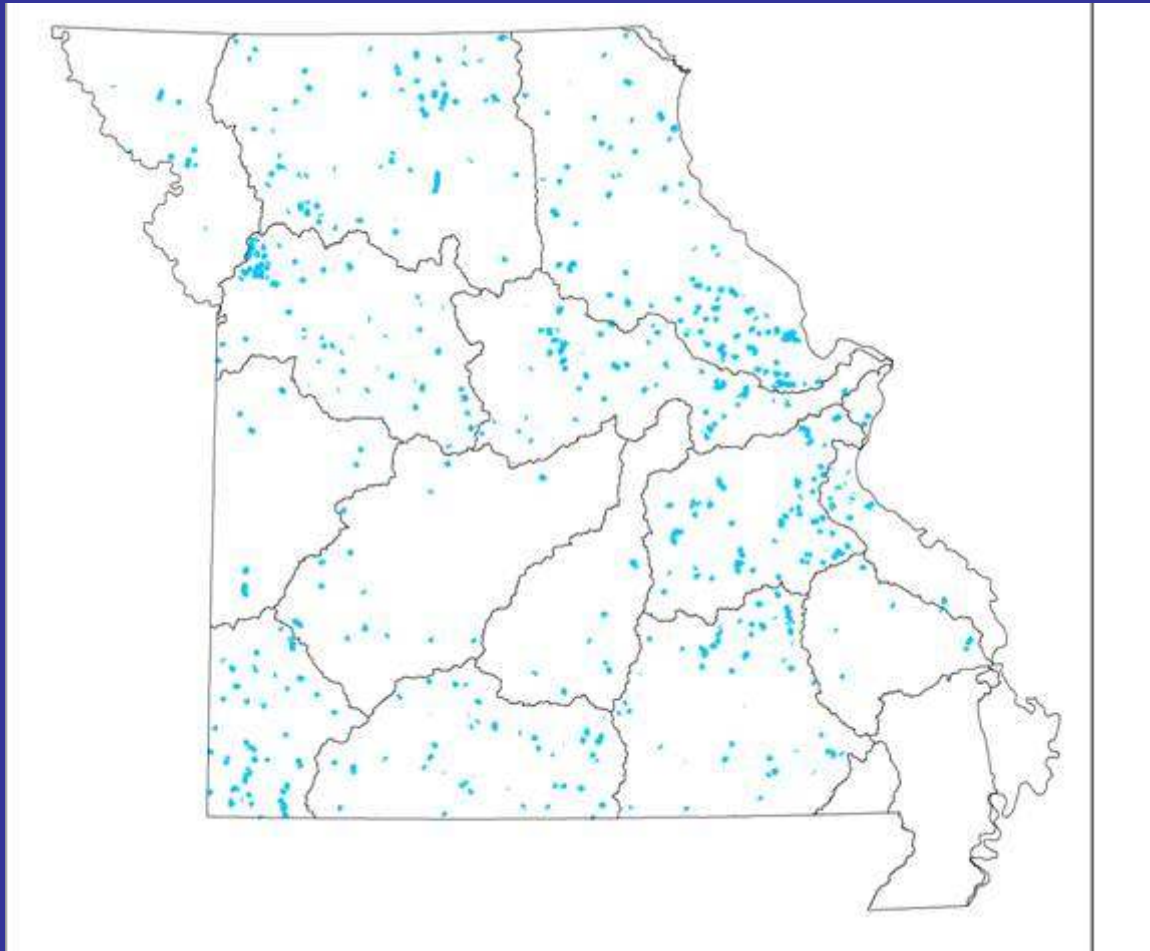
- Fish community
 - IBI
- Macroinvertebrate community
 - SCI
- Physical habitat
 - HI
- Water Quality



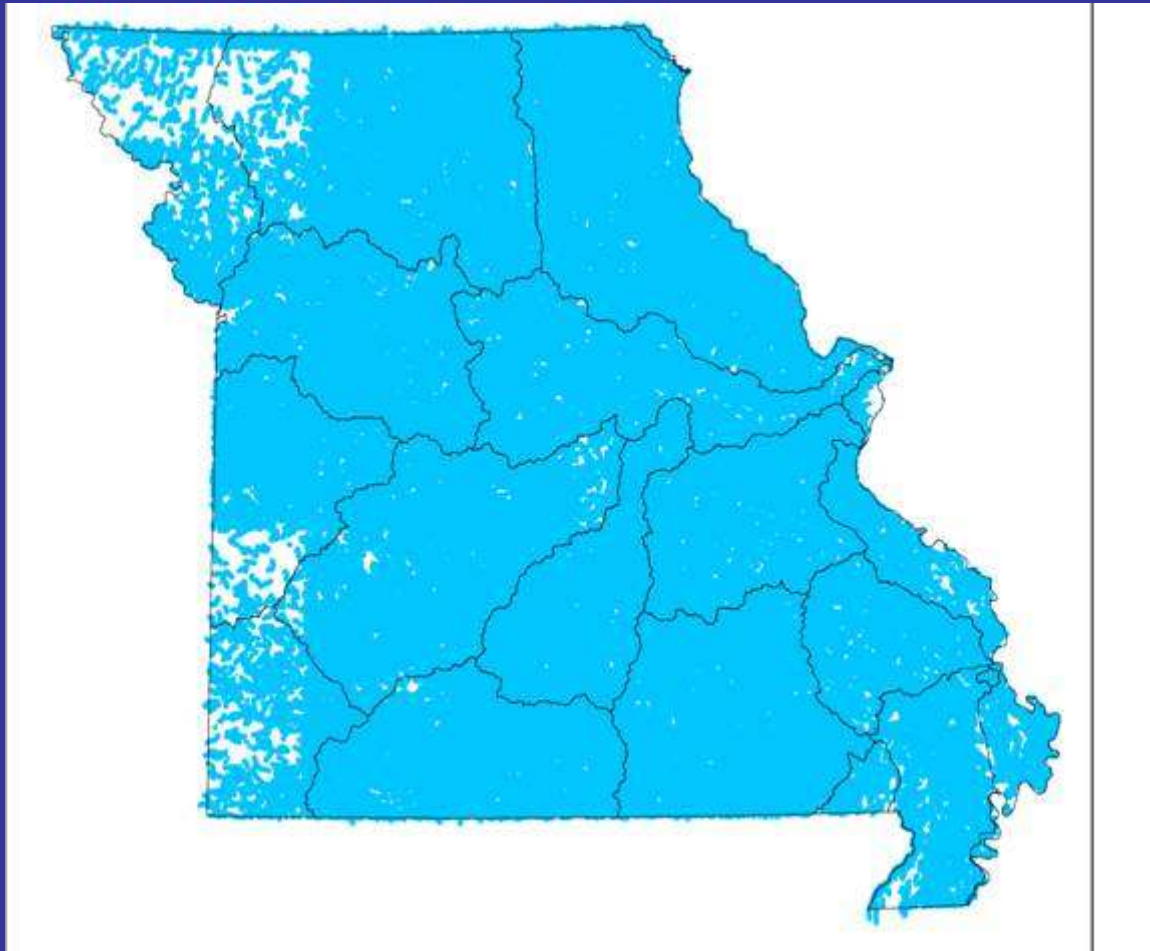
100k Stream Segments (106,000)



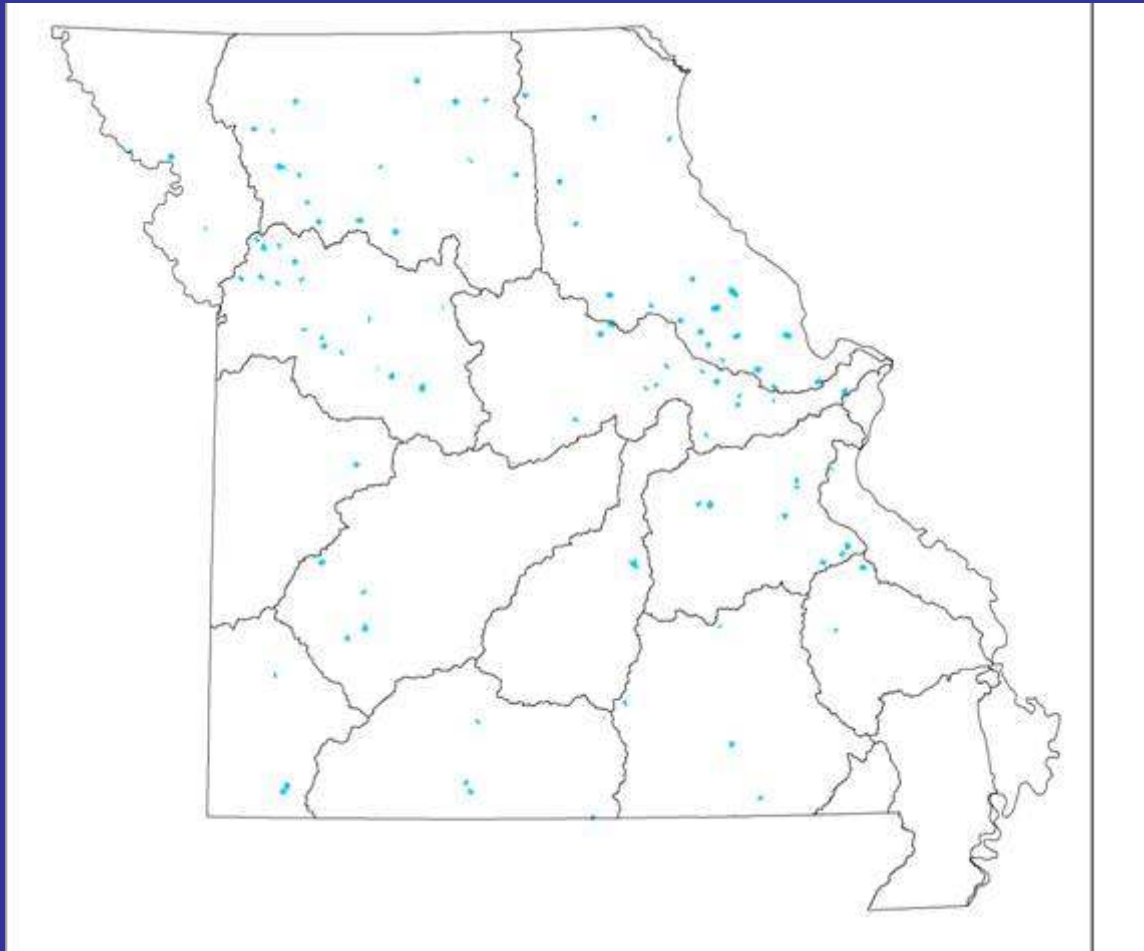
Segments Sampled by RAM Program (641 sites, 854 samples)



100k Unclassified Stream Segments (71,000)

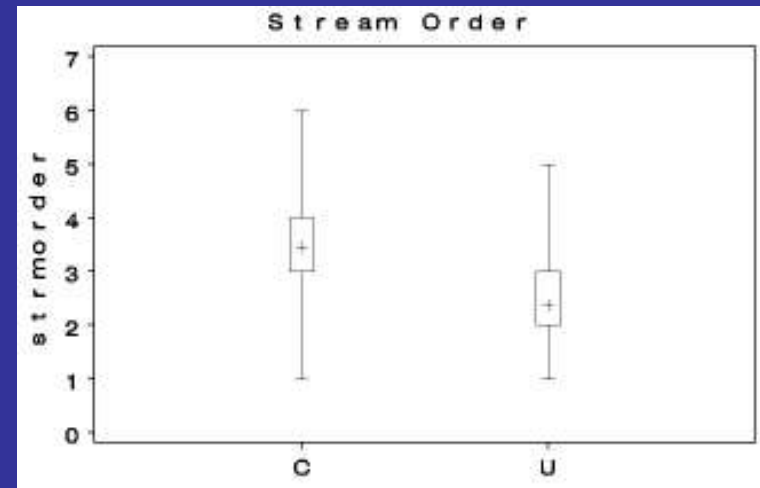


Unclassified Segments sampled by RAM (116 sites, 122 samples)



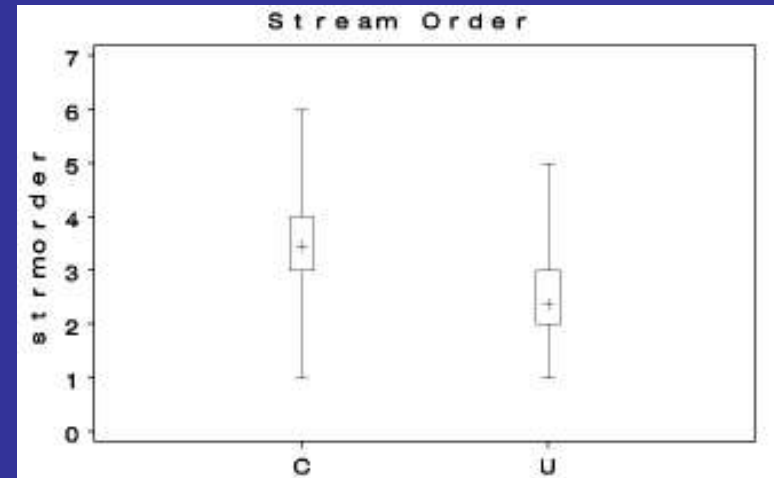
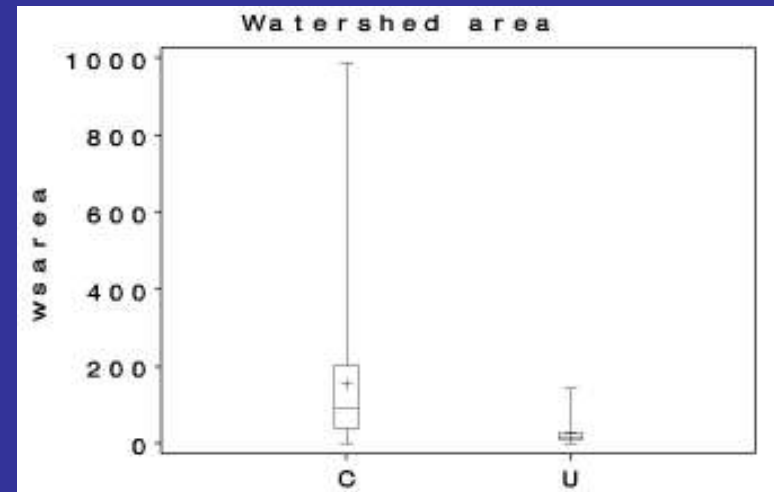
Characrteristics of Unclassified Sites

- Watershed
- Physical Habitat
- Residual Habitat
- Macroinvertebrate Community
- Fish Community
- Indices



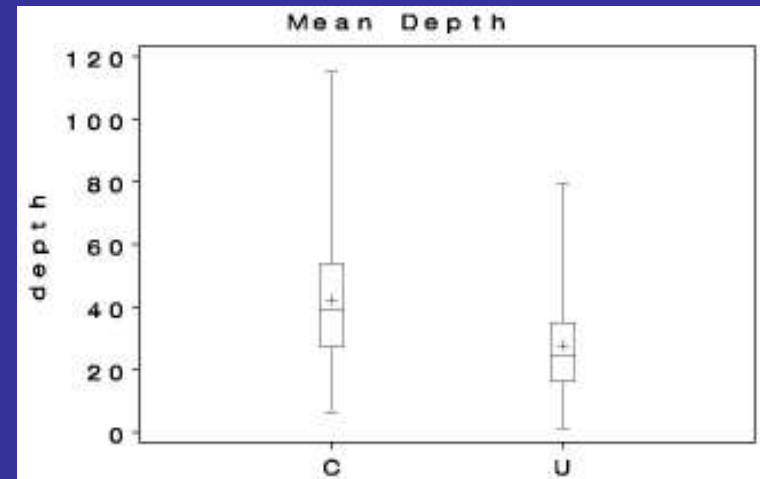
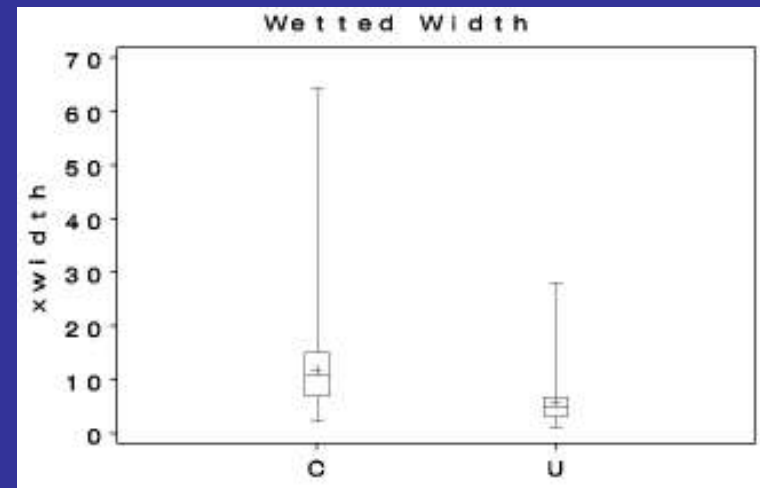
Characrteristics of Unclassified Sites (Watershed)

- Mean watershed area (km²)
 - 25 (2-142)
- Mean stream order
 - 2.4 (1-4)



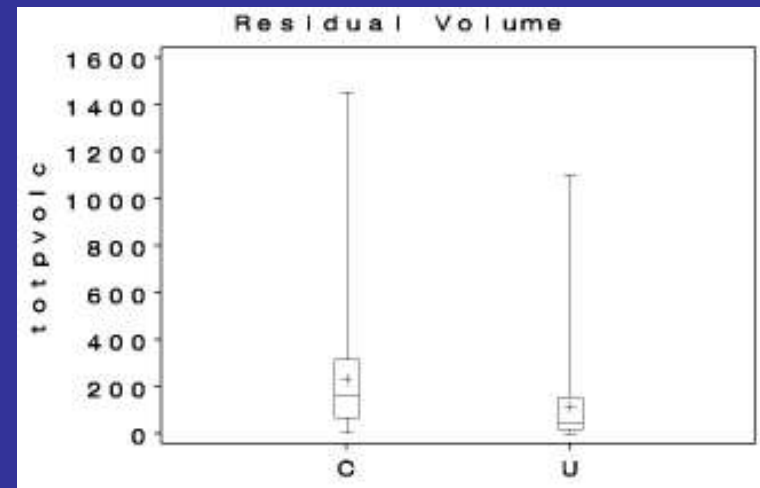
Characrteristics of Unclassified Sites (Physical Habitat)

- Mean mean wetted width (m)
 - 6 (1-28)
- Mean mean depth (cm)
 - 28 (2-80)

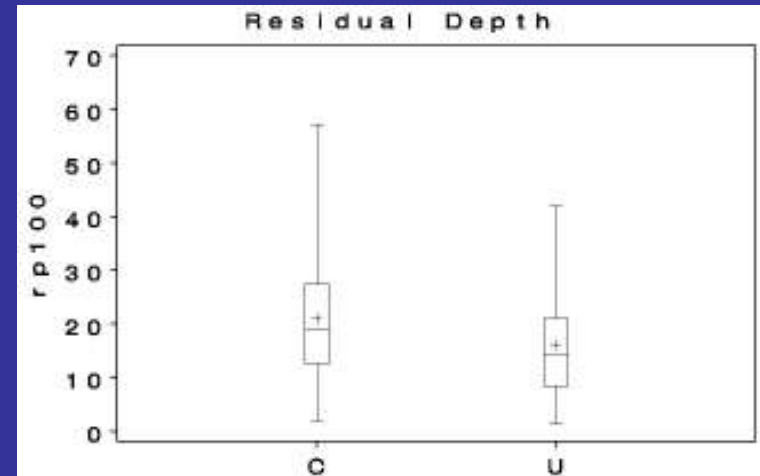


Characteristics of Unclassified Sites (Residual Habitat)

Mean residual pool volume (m^3)
– 110 (1-1104)

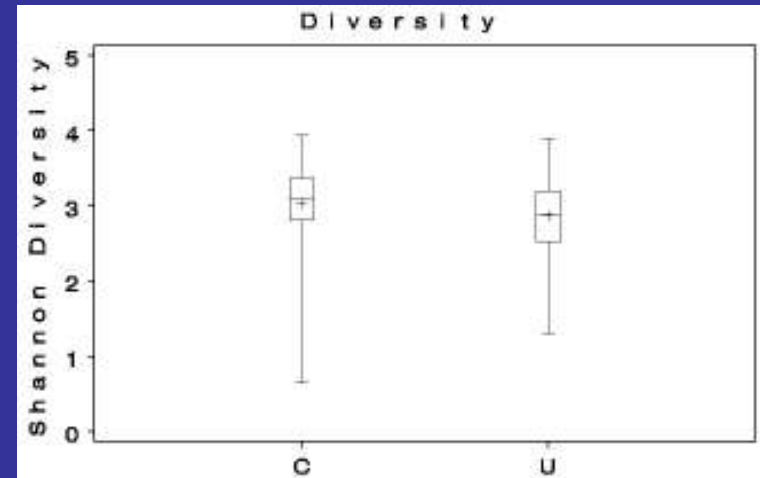
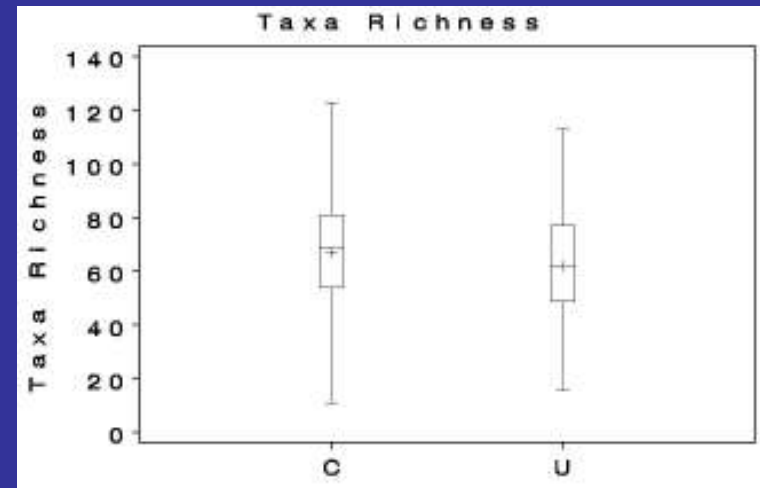


Mean residual depth ($\text{m}^2/100\text{m}$)
– 16 (1-42)



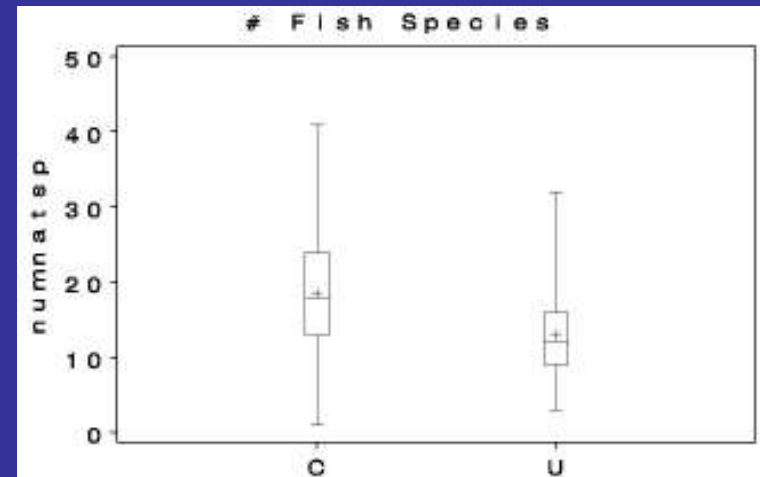
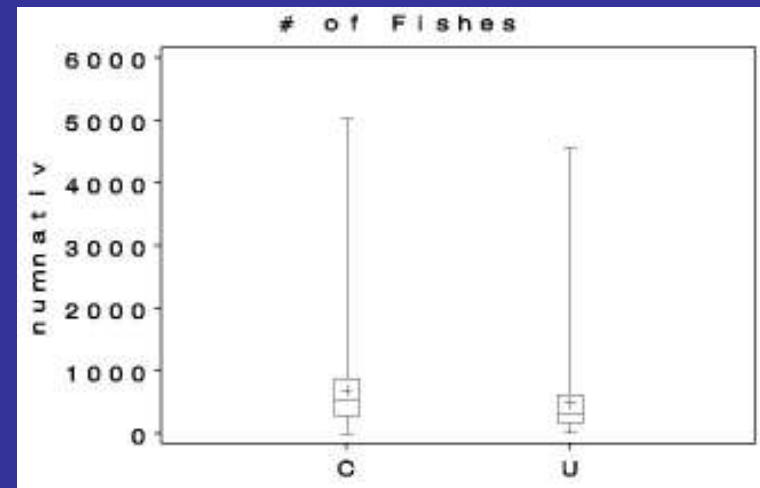
Characrteristics of Unclassified Sites (Macroinvertebrate Community)

- Mean taxa richness
 - 62 (16-113)
- Mean Shannon Diversity
 - 2.9 (1.3-3.90)



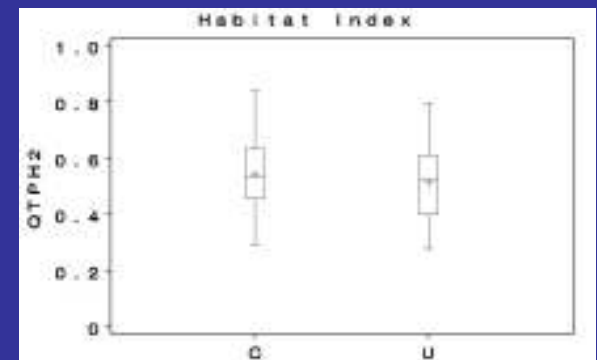
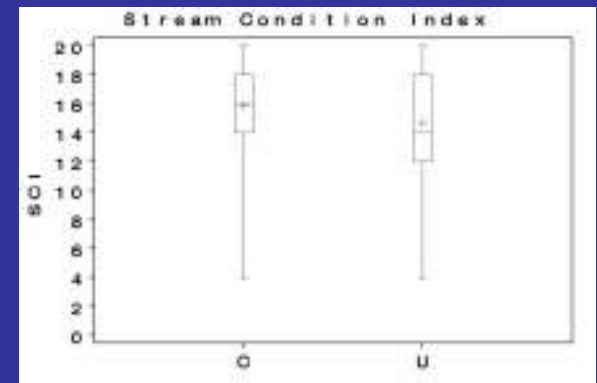
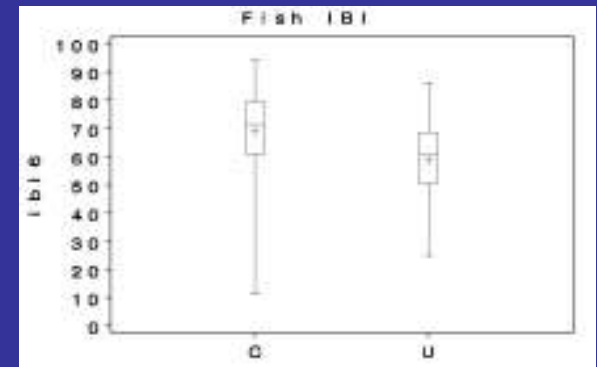
Characrteristics of Unclassified Streams (Fish Community)

- Mean number of individuals
 - 491 (9-4556)
- Mean number of species
 - 13 (3-32)
 - 99 species state wide



Characrteristics of Unclassified Streams (Indices)

- Mean IBI score (0-100)
 - 59 (25-86)
- Mean SCI score (4-20)
 - 15 (4-20)
- Mean HI score (0-1)
 - 0.51 (0.28-0.79)



Conclusions

- Unclassified sites are similar to classified sites
 - Smaller watershed characteristics
 - Smaller physical and residual habitat characteristics
 - Similar macroinvertebrate and fish communities
 - Similar range of condition indices

Questions?

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Shadow Bass	Stippled Darter	Common Shiner	Slender Madtom
Ozark Bass	Orangethroat Darter	Duskystripe Shiner	Stonecat
Rock Bass	Missouri Saddled Darter	Bleeding Shiner	Tadpole Madtom
Black Bullhead	Banded Darter	Redfin Shiner	Rainbow Trout
Yellow Bullhead	Northern Studfish	Silver Chub	Logperch
Pirate Perch	Blackstripe Topminnow	Smallmouth Bass	Blackside Darter
Freshwater Drum	Blackspotted Topminnow	Spotted Bass	Slenderhead Darter
Central Stoneroller	Plains Topminnow	Largemouth Bass	Trout-Perch
Largescale Stoneroller	Western Mosquitofish	Spotted Sucker	Suckermouth Minnow
Goldfish	Goldeye	Silver Redhorse	Southern Redbelly Dace
River Carpsucker	Brassy Minnow	Black Redhorse	Bluntnose Minnow
Quillback	Bigeye Chub	Golden Redhorse	Fathead Minnow
White Sucker	Northern Hog Sucker	Hornyhead Chub	Bullhead Minnow
Mottled Sculpin	Northern Brook Lamprey	Golden Shiner	White Crappie
Banded Sculpin	Channel Catfish	Emerald Shiner	Creek Chub
Ozark Sculpin	Bigmouth Buffalo	River Shiner	
Whitetail Shiner	Brook Silverside	Bigeye Shiner	
Red Shiner	Least Brook Lamprey	Silverjaw Minnow	
Blacktail Shiner	Longnose Gar	Ghost Shiner	
Common Carp	Shortnose Gar	Bigmouth Shiner	
Gizzard Shad	Green Sunfish	Wedgespot Shiner	
Creek Chubsucker	Warmouth	Blacknose Shiner	
Grass Pickerel	Orangespotted Sunfish	Ozark Minnow	
Greenside Darter	Bluegill	Ozark Shiner	
Rainbow Darter	Longear Sunfish	Carmine Shiner	
Fantail Darter	Redspotted Sunfish	Sand Shiner	
Slough Darter	Cardinal Shiner	Telescope Shiner	
Johnny Darter	Striped Shiner	Ozark Madtom	